

REMARKS

Claims 1-12 are pending in this application. Claims 1 and 3 have been amended to incorporate the features of claim 5. Claim 5 has been canceled without prejudice or disclaimer. Claim 6 has been amended to be an independent claim. Claims 13 and 14 are new, support for which can be found at page 2, lines 24-30. Entry and consideration of these amendments earnestly is requested inasmuch as they do not introduce new matter.

Claim Rejections

Rejections Under 35 U.S.C. § 102 & 103

- A. Response to rejection of claims 1-11 under 35 U.S.C. 102(b) as being anticipated by Ueda et al.

In response to the rejection of claims 1-11 under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 5,854,354 of Ueda et al. ("Ueda"), Applicants submit the Examiner has not demonstrated that the reference teaches all the limitations of the claims. Applicants therefore traverse the rejection.

With respect to the rejection under 35 U.S.C. 102(b), for a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The test for anticipation under section 102 is whether each and every element as set forth in the claims is found, either expressly or inherently, in a single prior art reference. *Verdegaal Bros. V. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must also be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990).

The Examiner contends that the reference teaches a metallocene catalyst bound to a porous prepolymer support. In particular, the Examiner points to illustrative example 1. However, neither Ueda's example 1, nor any other example in Ueda discloses use of a carrier. In contrast, the examples describe catalysts prepared by contacting alumoxane and metallocene and then prepolymerizing the catalyst system in the presence of hydrogen. Certainly, there is no teaching of a process using an organic porous polymer support having porosity due to pores with

diameter up to 10 μm (100000 Å) higher than 0.1 cc/g as a catalyst support (claim 1), or a support having a total porosity due to all pores whose diameter is comprised between 0.1 μm (1000 Å) and 2 μm (20000 Å) of at least 30% of a total porosity due to of all pores whose diameter is comprised between 0.02 μm (200 Å) and 10 μm (100000 Å) (claim 6).

Moreover, Ueda's general teaching of support material, as described in column 15, lines 26-40:

[t]he above-mentioned inorganic oxides may contain carbonates, sulfates, nitrates and oxides, e.g., Na_2CO_3 , K_2CO_3 , CaCO_3 , MgCO_3 , Na_2SO_4 , $\text{Al}_2(\text{SO}_4)_3$, BaSO_4 , KNO_3 , $\text{Mg}(\text{NO}_3)_2$, $\text{Al}(\text{NO}_3)_3$, Na_2O , K_2O and Li_2O , in small amounts.

The properties of the fine particle carrier vary depending on the type and the process for the preparation thereof, but preferably used in the invention is a carrier having a specific surface area of 50 to 1,000 m^2/g , preferably 100 to 700 m^2/g , and a pore volume of 0.3 to 2.5 cm^3/g . The fine particle carrier may be used after calcined at a temperature of 100° to 1,000°C., preferably 150 to 700°C., if desired.

Also employable as the fine particle carrier in the invention is a granular or particulate solid of an organic compound having a particle diameter of 10 to 300 μm . Examples of such organic compounds include (co)polymers produced mainly from α -olefins of 2 to 14 carbon atoms such as ethylene, propylene, 1-butene and 4-methyl-1-pentene, and (co)polymers produced mainly from vinylcyclohexane or styrene.

contains no teaching of the use of an organic porous polymer support having the claimed porosities. Ueda's 0.3 to 2.5 cm^3/g pore volume range does not refer to the particulate solid of an organic compound, as is obvious from the description of the associated calcining temperatures for the material (100° to 1000°C). Instead, it refers to the listed inorganic compounds. However, even if Ueda's pore volume range referred to organic compounds, the range is very broad, and in any event is a total pore volume. In no way does it teach the particular porosity of the support recited in the current claims.

Additionally, with respect to claim 9, the Examiner has acknowledged that Ueda does not disclose the recited steps but nonetheless argues that the claims are product-by-process. As a result, the Examiner has not given the process limitations complete patentable weight. Applicants respectfully point out to the Examiner that claim 9 is clearly a process claim, and that

the Examiner has therefore improperly read the recited catalyst support limitations out of the claims.

Therefore, for the above reasons, Applicants respectfully submit that the cited reference does not recite all the limitations of the claims as required under §102. Reconsideration and withdrawal of the rejection respectfully is requested.

B. Response to rejection of claim 12 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ueda.

In response to the rejection of claim 12 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ueda, Applicants respectfully submit that the cited reference does not teach all the limitations of the claim and that additionally, a *prima facie* case of Obviousness has not been made out. Applicants therefore traverse the rejection.

The threshold requirement under §102 has been described in paragraph A above.

With respect to a rejection under 103(a), the U.S. Supreme Court in *Graham v. John Deere Co.*, 148 U.S.P.Q. 459 (1966) held that non-obviousness was determined under §103 by (1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the art; and, (4) inquiring as to any objective evidence of non-obviousness. Accordingly, for the Examiner to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. See MPEP §2143. Finally, all claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. (BNA) 580 (C.C.P.A. 1974).

The Examiner has acknowledged that the Ueda reference does not expressly disclose the properties of the polypropylene obtained by the process according to Ueda. However, the Examiner has nonetheless concluded that the claims are anticipated by, or in the alternative obvious over Ueda by assuming that the process of Ueda and the present claims are substantially

similar, and then reasoning that the polypropylene formed in Ueda inherently exhibits these properties.

First, as discussed in paragraph A above, the process described in the present specification recites utilizing an organic porous polymer support having a particular porosity. As has been discussed, Ueda discloses no particular porosity for an organic polymer support, and only a total pore volume for the inorganic supports. In fact, for organic polymer supports, it discloses no particular porosity values at all. Further, examples 8-10 relative to example 1 in the present specification, demonstrate improved morphology for polymers produced by the claimed process. Therefore, Applicants respectfully submit that contrary to the Examiner's assumption, use of an organic porous polymer support having a particular porosity, as in the claimed process, produces polymer with improved properties, so that the two processes cannot be considered substantially similar. Reconsideration and withdrawal of the rejection respectfully is requested.

C. Response to rejection of claim 9 under 35 U.S.C. 103(a) as being unpatentable over Ueda in view of Covezzi et al.

In response to the rejection of claim 9 under 35 U.S.C. 103(a) as obvious over Ueda in combination with International Publication Number WO 01/44319 of Covezzi et al. ("Covezzi"), Applicants submit that a *prima facie* case of Obviousness has not been made out. Applicants therefore traverse the rejection.

The threshold requirement under §103 has been described in paragraph B above.

As discussed above, Ueda does not teach, suggest or disclose the claimed polymerization process utilizing an organic porous polymer support having the specified porosity. In fact, Ueda does not disclose porosity values for an organic catalyst support at all. Covezzi does not remedy the deficiencies of Ueda. Reconsideration and withdrawal of the rejection respectfully is requested.

Therefore, Applicants respectfully submit that none of the elements of a *prima facie* case of Obviousness have been made out, and request that the Examiner reconsider and withdraw the rejection.

Applicants respectfully request that a timely Notice of Allowance be issued in this case. Should the Examiner have questions or comments regarding this application or this Amendment, Applicant's attorney would welcome the opportunity to discuss the case with the Examiner.

The Commissioner is hereby authorized to charge U.S. PTO Deposit Account 08-2336 in the amount of any fee required for consideration of this Amendment.

This is intended to be a complete response to the Office Action mailed March 27, 2008.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited with sufficient postage thereon with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on September 22, 2008.


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